

REMARKS

Claims 1-4, 6, 9, 10 and 12-14 are presented for consideration, with Claim 1 being independent.

Claim 1 has been amended to further distinguish Applicants' invention from the cited art. In addition, Claims 12 and 14 have been amended.

Initially, the drawings remain objected to for allegedly failing to show a plurality of units connected in a cassette-like manner. Without conceding to the propriety of this objection, the claims have been amended to set forth that each unit is connected and disconnected like a cassette, a feature which is shown, for example, in Figures 3 and 4. Accordingly, reconsideration and withdrawal of the objection to the drawings is respectfully requested.

Claims 1-4, 6, 9, 10 and 12-14 were rejected under 35 U.S.C. §112, first paragraph, 1) as allegedly failing to comply with the enablement requirement and 2) for allegedly being unclear. In response to these rejections, Claim 1 has been amended to set forth that the units can be connected and disconnected from the liquid transfer apparatus "like a cassette." The Office Action is understood to say that using this language would overcome the rejections under 35 U.S.C. §112, first paragraph. Accordingly, reconsideration and withdrawal of these rejections is respectfully requested.

Claims 1-3, 9, 10 and 12-14 are rejected under 35 U.S.C. §102(b) as allegedly being anticipated by Neukermans '751. This rejection is respectfully traversed.

Claim 1 of Applicants' invention relates to a liquid transfer apparatus for transferring a micro-volume of liquid, with the apparatus having a plurality of units. Each unit comprises a liquid containing section for containing liquid, a liquid introducing section for introducing liquid into the containing section, and a liquid leading out section for leading out the liquid introduced into the liquid containing section. As claimed, the liquid introducing section of a first unit and the liquid leading out section of a second unit are connected such that a micro-volume of liquid is transferred from the second unit to the first unit, with each liquid leading out section having energy application means for applying energy for ejecting the liquid. In addition, each unit can be connected to and disconnected from the liquid transfer apparatus like a cassette.

In accordance with Applicants' claimed invention, a high performance liquid transfer apparatus can be provided.

The Neukermans patent relates to a microfluidic delivery system for controlling flow of a liquid through elongated capillaries. As shown, for example, in Figures 3 and 4, reservoirs 124a, 124b and 124c contained liquid for passage through capillaries 126a, 126b and 126c, through valve assemblies 128a, 128b, or 128c. The liquid flows from the capillaries to a common juncture 132 before entering a reaction chamber 122. A piezoelectric

actuator 137 and blade 136 form part of each valve assembly and operate to regulate the capillaries.

In contrast to Applicants' claimed invention, however, Neukermans does not teach or suggest, among other features, a liquid introducing section of a first unit and a liquid leading out section of a second unit being connected such that the micro-volume of liquid is transferred from the second unit to the first unit, with each liquid leading out section having energy application means for applying energy for ejecting the liquid. In Neukermans, the piezoelectric actuators act only as a valve for regulating the flow of liquid in the individual capillaries (by moving the respective blade). As described above, Neukermans provide no liquid transfer between the individual units.

Accordingly, it is submitted that Neukermans fails to anticipate or render obvious Applicants' invention as set forth in Claim 1, and therefore reconsideration and withdrawal of the rejection under 35 U.S.C. §102(b) is respectfully requested.

Thus, it is submitted that Applicants' invention as set forth in independent Claim 1 is patentable over the cited art. In addition, dependent Claims 2-4, 6, 9, 10 and 12-14 set forth additional features of Applicants' invention. Independent consideration of the dependent claims is respectfully requested.

In view of the foregoing, reconsideration and allowance of this application is deemed to be in order and such action is respectfully requested.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,

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